

10/561570

SEQUENCE LISTING **IAP20 Rec'd PCT/PTO 20 DEC 2005**

<110> Watanabe, Shinichi
Encinas, Jeffrey
Kondo, Shinichi
Bacon, Kevin

<120> REGULATION OF A KINASE, REGULATED IN
COPD KINASE (RC KINASE)

<130> 11582-016-999

<160> 16

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 3719

<212> DNA

<213> Homo sapiens

<400> 1

ttcaaagaaa	cagcagcttt	tggacatttt	aatgagttct	atgccaaaac	cagaaagaca	60
tgctgagtca	ttgcttgaca	tttgtcatga	tacaaactct	tctccaactg	atttgatgac	120
agttaccaaa	aatcaaaaaca	tcatcttgca	aagcatcagc	agaagtgagg	agttcgacca	180
agatggtgac	tgcagtcatt	ccacactggt	taatgaagaa	gaagatccca	gtgggtggtag	240
acaggactgg	caaccagga	cagaagagtt	ttcgacctct	catatgaagt	acagtggccg	300
aagcatcaag	ttccttctgc	caccactgtc	actcttgccc	acgcgatctg	gtgtccttac	360
tatcccccaa	aatcacaagt	ttccaaaaga	aaaagaaaaga	aacattccaa	gtctcacatc	420
ttttgtgcct	aagctctcag	tgtctgttcg	tcaatctgat	gagctcagcc	catcaaacga	480
gcctccggga	gccctagtta	agtcgttgat	ggatccgact	ctcaggctct	ctgatggctt	540
catttggtca	agaaacatgt	gctcttttcc	taagactaac	catcacaggc	aatgcctgga	600
gaaggaggaa	aactggaaat	ccaaggaaat	agaagaatgt	aacaaaattg	aaatcactca	660
ctttgaaaaa	gggcagtcct	tgggtgtctt	tgagaatttg	aaggaaggca	atattcctgc	720
agttagggaa	gaggatattg	actgccatgg	tagtaaaacg	cgaaaacctg	aagaagagaa	780
ctctcaatat	ctttcatcaa	gaaagaatga	gagttcagta	gccaaaaact	atgaacaaga	840
tccagaaata	gtatgtacca	ttccaagcaa	gttccaagaa	acccagcatt	cagaaataac	900
tccaagccag	gatgaagaga	tgagaaataa	taaagctgct	tcaaaaagag	tttcattaca	960
taaaaatgaa	gcaatggaac	caaacaatat	tttagaagag	tgtactgtac	ttaaaagctt	1020
atccagtgtg	gtctttgatg	accccatgta	taaactccca	gaagggttga	gcagcatgga	1080
gacaaacata	aaaatatcaa	tagcagaaag	agccaaacca	gaaatgagta	ggatggtgcc	1140
tcttatccac	atcaccttcc	ctgtggatgg	aagccccaag	gaaccagtga	tagccaaacc	1200
aagcctccaa	acaagaaaag	gaaccattca	taacaacat	agtgtcaaca	tacctgtaca	1260
ccaagaaaat	gacaagcata	agatgaattc	ccataggagt	aagttggatt	caaagaccaa	1320
gacaagtaag	aagacacctc	agaattttgt	gatttctact	gaagggtcca	ttaagcctac	1380
catgcataaa	accagcataa	aaacacaaat	tttcccggct	ttgggacttg	tggaccccag	1440
gccttgggcaa	ttgcccaggt	ttcaaaaagaa	aatgccacag	atagcaaaga	agcaatcaac	1500
tcaccggact	cagaaaacct	aaaagcaatc	atttccttgc	atctgtaaaa	atccaggaac	1560
acagaagtca	tgtgttcctc	tctctgttca	accgacagag	ccaagactaa	attacctaga	1620
tcttaagtat	agtgatatgt	tcaaagaaat	caattcaact	gctaattggac	ctggaatcta	1680
tgaaatgttt	gggacccttg	tttattgtca	tgtgcgagag	actgaaaggg	atgaaaacac	1740
gtattaccgt	gagatatgtt	cggctccatc	aggcagacgt	atcaccaata	aatgtcgatc	1800
ttcacacagt	gagaggaaga	gcaatatcag	aacaagactt	tctcagaaaa	aaacacatat	1860
gaaatgcccc	aagacttcat	ttggcattaa	acaagagcac	aaagtcttaa	tttctaaaga	1920
aaagagttcc	aaggctgtac	atagcaacct	acatgacatt	gaaaatgggtg	atggtatttc	1980
agaaccagac	tggcagataa	agtcttcagg	aaatgagttt	ctatcttcca	aagatgaaat	2040
tcatcccatg	aacttggctc	agacacctga	gcagtcctatg	aaacagaatg	aattccctcc	2100
tgtctcagat	ttatccattg	ttgaagaagt	ttctatggaa	gagtcctactg	gtgatagaga	2160
catttctaac	aatcaaatac	tcaccacaag	cctcagagat	ctgcaagaac	ttgaagagct	2220

acatcaccag	atccccattta	tcccttcaga	agacagctgg	gcagtgccca	gtgagaagaa	2280
ttctaacaag	tatgtacagc	aagaaaagca	gaatacagca	tctcttagta	aagtaaatagc	2340
cagccgaatt	ttaactaatg	atctagagtt	tgatagtgtt	tcagatcact	ctaaaacact	2400
tacaaatttc	tctttccaag	caaaaacaaga	aagtgcattct	ttccagacat	atcaatatattg	2460
ggtacattat	ttggatcatg	atagtttagc	aaataagtca	atcacatatc	aaatgttttg	2520
aaaaacctta	agtggcacaa	attcaatttc	ccaagaaatt	atggactctg	taaataatga	2580
agaattgaca	gatgaactat	taggttgtct	agctgcagaa	ttattagctc	ttgatgagaa	2640
agataacaac	tcttgccaaa	aaatggcaaa	tgaacagat	cctgaaaacc	taaatcttgt	2700
cctcagatgg	agaggaagta	ccccaaaaga	aatgggcaga	gagacaacaa	aagtcaaaat	2760
acagaggcat	agtagtggc	tcaggatata	tgacagggag	gagaaatttc	tcatctcaaa	2820
tgaaaagaag	atattttctg	aaaatagttt	aaagtctgaa	gaacctatcc	tatggaccaa	2880
gggtgagatt	cttggaagg	gagcctacgg	cacagtatac	tgtggtctca	ctagtcaagg	2940
acagctaata	gctgtaaaaac	aggtggcctt	ggatacctct	aataaattag	ctgctgaaaa	3000
ggaataccgg	aaactacagg	aagaagtaga	tttgctcaaa	gcactgaaac	atgtcaacat	3060
tgtggcctat	ttggggacat	gcttgcaaga	gaacactgtg	agcattttca	tggagtgtgt	3120
tcttggtggc	tcaatctcta	gtattataaa	ccgttttggg	ccattgcctg	agatggtgtt	3180
ctgtaaata	acgaaacaaa	tacttcaagg	tgttgcttat	ctccatgaga	actgtgtggt	3240
acatcgcgat	atcaaaggaa	ataatgttat	gctcatgcc	actggaataa	taaagctgat	3300
tgactttggc	tgtgccaggc	gtttggcctg	ggcaggttta	aatggcaccc	acagtgcacat	3360
gcttaagtcc	atgcatggga	ctccatattg	gatggcccca	gaagtcacat	atgagctctg	3420
ctatggacgg	aaatcagata	tctggagcat	tggttgctact	gtgtttgaga	tggctacagg	3480
gaagcctcca	ctggcttcca	tgacacagat	ggcgccatg	ttttacatcg	gagcacaccg	3540
agggtgatg	cctcctttac	cagaccactt	ctcagaaaat	gcagcagact	ttgtgcgcac	3600
gtgcctgacc	agggaccagc	atgagcgacc	ttctgctctc	cagctcctga	agcactcctt	3660
cttgagagaga	agtcactgaa	tatacatcaa	gactttcttc	ccagttccac	tgcatatgc	3719

<210> 2

<211> 3338

<212> DNA

<213> Homo sapiens

<400> 2

ttcgaccaag	atggtgactg	cagtcattcc	acactgggta	atgaagaaga	agatcccagt	60
ggtggtagac	aggactggca	acccaggaca	gaaggtgttg	agatcactgt	aacttttcca	120
agagatgtca	gtcctcccca	agaaatgagc	caagaagact	taaaagaaaa	gaatctgata	180
aactcatcgc	ttcaagaatg	ggcacaagca	catgcagttt	ctcatccaaa	tgaaatagaa	240
acggtggagc	tcaggaaaaa	gaagctgacc	atgcggccct	tagttttgca	aaaagaggaa	300
agttccaggg	agctctgcaa	tgtgaacttg	ggctttttgc	taccaagatc	ttgtttagaa	360
ctgaacattt	ccaagtctgt	aaccagagaa	gatgtcctc	attttctgaa	ggagcagcaa	420
agaaaatctg	aagagttttc	gacctctcat	atgaagtaca	gtggccgaag	catcaagttc	480
cttctgccac	cactgtcact	cttgcccacg	cgatctgggtg	tccttactat	ccccaaaaat	540
cacaagtttc	caaaagaaaa	agaaagaaac	attccaagtc	tcacatcttt	tgtgcctaag	600
ctctcagtgt	ctgttcgtca	atctgatgag	ctcagcccat	caaacgagcc	tccgggagcc	660
ctagttaagt	cgttgatgga	tccgactctc	aggtcttctg	atggcttcat	ttggtcaaga	720
aacatgtgct	cttttcctaa	gactaacat	cacaggcaat	gcctggagaa	ggaggaaaaac	780
tggaatcca	aggaaataga	agaatgtaac	aaaattgaaa	tcactcactt	tgaaaaaggg	840
cagtcttttg	tgtcttttga	gaatttgaag	gaaggcaata	ttcctgcagt	tagggaagag	900
gatattgact	gccatggtag	taaaacgcga	aaacctgaag	aagagaactc	tcaatatctt	960
tcatcaagaa	agaatgagag	ttcagtagcc	aaaaactatg	aacaagatcc	agaaatagta	1020
tgtaccattc	caagcaagtt	ccaagaaacc	cagcattcag	aaataactcc	aagccaggat	1080
gaagagatga	gaaataataa	agctgcttca	aaaagagttt	cattacataa	aatgaagca	1140
atggaaccaa	acaatatattt	agaagagtgt	actgtactta	aaagcttatc	cagtgtagtc	1200
tttgatgacc	ccattgataa	actcccagaa	ggttgtagca	gcatggagac	aaacataaaa	1260
atatcaatat	cagaaagagc	caaaccagaa	atgagtagga	tggtgcctct	tatccacatc	1320
accttccctg	tgatggaag	ccccaaaggaa	ccagtgatag	ccaaaccaag	cctccaaaca	1380
agaaagggaa	ccattcataa	caaccatagt	gtcaacatac	ctgtacacca	agaaaatgac	1440
aagcataaga	tgaattccca	taggagtagt	ttggattcaa	agaccaagac	aagtaagaag	1500
acacctcaga	attttgtgat	ttctactgaa	ggtcccatca	agcctaccat	gcataaaaac	1560
agcataaaaa	cacaaatttt	cccggctttg	ggacttgtgg	accccaggcc	ttggcaattg	1620
cccaggtttc	aaaagaaaat	gccacagata	gcaaagaagc	aatcaactca	ccggactcag	1680
aaacctaaaa	agcaatcatt	tccttgcatc	tgtaaaaatc	caggaacaca	gaagtcatgt	1740

gttctctctct	ctgttcaacc	gacagagcca	agactaaatt	acctagatct	taagtatatgt	1800
gatatgttca	aagaaatcaa	ttcaactgct	aatggacctg	gaatctatga	aatgtttggg	1860
acctctgttt	attgtcatgt	gcgagagact	gaaagggatg	aaaacacgta	ttacctgtgag	1920
atatgttcgg	ctccatcagg	cagacgtatc	accaataaat	gtcgatcttc	acacagttag	1980
aggaagagca	atatcagaac	aagactttct	cagaaaaaaa	cacatatgaa	atgccccaaag	2040
acttcatttg	gcattaaaca	agagcaciaa	gtcttaattt	ctaaagaaaa	gagttccaag	2100
gctgtacata	gcaacctaca	tgacattgaa	aatgggtgatg	gtatttcaga	accagactgg	2160
cagataaagt	cttcaggaaa	tgagtttcta	tcttccaaag	atgaaattca	tcccatgaac	2220
ttggctcaga	cacctgagca	gtccatgaaa	cagaatgaat	tccctcctgt	ctcagattta	2280
tccattgttg	aagaagtttc	tatggaagag	tctactgggtg	atagagacat	ttctaacaat	2340
caaatactca	ccacaagcct	cagagatctg	caagaacttg	aagagctaca	tcaccagatc	2400
ccatttatcc	cttcagaaga	cagctgggca	gtgcccagtg	agaagaattc	taacaagtat	2460
gtacagcaag	aaaagcagaa	tacagcatct	cttagtaaaag	taaatgccag	ccgaatttta	2520
actaatgata	tagagtttga	tagtgtttca	gatcactcta	aaacacttac	aaatttctct	2580
ttccaagcaa	aacaagaaag	tgcatcttcc	cagacataatc	aatattgggt	acattatttg	2640
gatcatgata	gttttagcaa	taagtcaatc	acatatcaaa	tgtttggaag	aaccttaagt	2700
ggcacaaaatt	caatttccca	agaaattatg	gactctgtaa	ataatgaaga	attgacagat	2760
gaactattag	gttgtctagc	tgacagaatta	ttagctcttg	atgagaaaga	taacaactct	2820
tgccaaaaaaa	tggcaaatga	aacagatcct	gaaaacctaa	atcttgtcct	cagatggaga	2880
ggaagtaccc	caaaagaaat	gggcagagag	acaacaaaag	tcaaaaataca	gaggcatagt	2940
agtgggctca	ggatatatga	cagggaggag	aaatttctca	tctcaaatga	aaagaagata	3000
ttttctgaaa	atagttttaa	gtctgaagaa	cctatcctat	ggaccaaggg	tgagattctt	3060
ggaaaggagg	cctacggcac	agtatactgt	gggtctacta	gtcaaggaca	gctaatagct	3120
gtaaaacagg	tggctttgga	tacctctaatt	aaattagctg	ctgaaaagga	ataccggaaa	3180
ctacaggaag	aagtagattt	gctcaaagca	ctgaaacatg	tgcttgacca	gggaccagca	3240
tgagcgacct	tctgctctcc	agctcctgaa	gcactccttc	ttggagagaa	gtcactgaat	3300
atacatcaag	actttcttcc	cagttccact	gcagatgc			3338

<210> 3

<211> 3510

<212> DNA

<213> Homo sapiens

<400> 3

ttcaaagaaa	cagcagcttt	tggacatttt	aatgagttct	atgccaaaac	cagaaagaca	60
tgctgagtca	ttgcttgaca	tttgtcatga	tacaaaactct	tctccaactg	atttgatgac	120
agttaccaaa	aatcaaaaaca	tcactcttgca	aagcatcagc	agaagttagg	agttcgacca	180
agatgggtgac	tgagctcatt	ccacactgggt	taatgaagaa	gaagatccca	gtgggtggtag	240
acaggactgg	caaccagga	cagaagggtgt	tgagatacact	gtaacttttc	caagagatgt	300
cagtcctccc	caagaaatga	gccaagaaga	cttaaaaagaa	aagaatctga	taaaactcatc	360
gcttcaagaa	tgggcacaaag	cacatgcagt	ttctcatcca	aatgaaatag	aaacggtgga	420
gctcaggaaa	aagaagctga	ccatgcggcc	cttagttttg	caaaaagagg	aaagtccag	480
ggagctctgc	aatgtgaact	tgggcttttt	gctaccaaga	tcttgtttag	aactgaacat	540
ttccaagtct	gtaaccagag	aagatgctcc	tcattttctg	aaggagcagc	aaagaaaatc	600
tgaagagttt	tcgacctctc	atatgaagta	cagtggccga	agcatcaagt	tccttctgcc	660
accactgtca	ctcttgccca	cgcatctggt	tgctccttact	atcccccaaa	atcacaagtt	720
tccaaaagaa	aaagaaagaa	acattccaag	tctcacatct	tttgtgcta	agctctcagt	780
gtctgttctg	caatctgatg	agctcagccc	atcaaacgag	cctccgggag	ccctagttaa	840
gtcgttgatg	gatccgactc	tcaggtcttc	tgatggcttc	atttggtcaa	gaaacatgtg	900
ctcttttctc	aagactaacc	atcacaggca	atgcctggag	aaggaggaaa	actggaaatc	960
caaggaaata	gaagaatgta	acaaaattga	aatcactcac	tttgaaaaag	ggcagtcctt	1020
ggtgtctttt	gagaatttga	aggaaggcaa	tattcctgca	gttagggaag	aggatattga	1080
ctgccatggt	agtaaaacgc	gaaaacctga	agaagagaa	tctcaatatc	tttcatcaag	1140
aaagaatgag	agttcagtag	ccaaaaacta	tgaacaagat	ccagaaatag	tatgtaccat	1200
tccaagcaag	ttccaagaaa	cccagcattc	agaaataact	ccaagccagg	atgaagagat	1260
gagaaataat	aaagctgctt	caaaaagagt	ttcattacat	aaaaatgaag	caatggaacc	1320
aaacaatatt	ttagaagagt	gtactgtact	taaaagctta	tccagtgtag	tctttgtatg	1380
ccccattgat	aaactcccag	aaggttgtag	cagcatggag	acaaacataa	aaatatcaat	1440
agcagaaaga	gccaaaccag	aaatgagtag	gatgggtgcct	cttatccaca	tcaccttccc	1500
tgtggatgga	agccccaagg	aaccagtgat	agccaaacca	agcctccaaa	caagaaaggg	1560
aaccattcat	aacaaccata	gtgtcaacat	acctgtacac	caagaaaatg	acaagcataa	1620

gatgaattcc	cataggagta	agttggattc	aaagaccaag	acaagtaaga	agacacctca	1680
gaattttgtg	atttctactg	aaggtcccat	taagcctacc	atgcataaaa	ccagcataaa	1740
aacacaaatt	ttcccggtt	tgggacttgt	ggaccccagg	ccttggcaat	tgcccagggt	1800
tcaaaagaaa	atgccacaga	tagcaaaaga	gcaatcaact	caccggactc	agaaacctaa	1860
aaagcaatca	tttccttgca	tctgtaaaaa	tccaggaaca	cagaagtcac	gtgttcctct	1920
ctctgttcaa	ccgacagagc	caagactaaa	ttacctagat	cttaagtata	gtgatatgtt	1980
caaagaaatc	aattcaactg	ctaattggacc	tggaatctat	gaaatgtttg	ggaccctgt	2040
ttattgtcat	gtgcgagaga	ctgaaaggga	tgaaaacacg	tattaccgtg	agatatgttc	2100
ggctccatca	ggcagacgta	tcaccaataa	atgtcgatct	tcacacagtg	agaggaagag	2160
caatatcaga	acaagacttt	ctcagaaaaa	aacacatatg	aaatgcccc	agacttcatt	2220
tggcattaaa	caagagcaca	aagtcttaat	ttctaagaa	aagagttcca	aggctgtaca	2280
tagcaacctc	catgacattg	aaaatggtga	tggattttca	gaaccagact	ggcagataaa	2340
gtcttcagga	aatgagtttc	tatcttccaa	agatgaaatt	catcccatga	acttggtctc	2400
gacacctgag	cagtccatga	aacagaatga	attccctcct	gtctcagatt	tatccattgt	2460
tgaagaagtt	tctatggaag	agtctactgg	tgatagagac	atttctaaca	atcaaatact	2520
caccacaagc	ctcagagatc	tgcaagaact	tgaagagcta	catcaccaga	tcccatattt	2580
cccttcagaa	gacagctggg	cagtgccccg	tgagaagaat	tctaacaagt	atgtacagca	2640
agaaaagcag	aatacagcat	ctcttagtaa	agtaaattgc	agccgaattt	taactaatga	2700
tctagagttt	gatagtgttt	cagatcactc	taaaacactt	acaaatttct	ctttccaagc	2760
aaaacaagaa	agtgcactct	cccagacata	tcaatatttg	gtacattatt	tggtatcatg	2820
tagtttagca	aataagtcaa	tcacatatca	aatgttttga	aaaaccttaa	gtggcacaaa	2880
ttcaattttc	caagaaatta	tggactctgt	aaataatgaa	gaattgacag	atgaactatt	2940
aggttgtcta	gctgcagaat	tattagctct	tgatgagaaa	gataacaact	cttgccaaaa	3000
aatggcaaat	gaaacagatc	ctgaaaacct	aaatcttgtc	ctcagatgga	gaggaagtac	3060
cccaaaagaa	atgggcagag	agacaacaaa	agtcaaaata	cagaggcata	gtagtgggct	3120
caggatatat	gacagggagg	agaaatttct	catctcaaat	gaaaagaaga	tattttctga	3180
aaatagttta	aagtctgaag	aacctatcct	atggaccaag	ggtgagattc	ttggaaaagg	3240
agcctacggc	acagtatact	gtggtctcac	tagtcaagga	cagctaatag	ctgtaaaaca	3300
ggtggctttg	gatacctcta	ataaatttag	tgctgaaaag	gaataccgga	aactacagga	3360
agaagttagt	ttgctcaaag	cactgaaaca	tgtgcctgac	cagggaccag	catgagcgac	3420
cttctgctct	ccagctcctg	aagcactcct	tcttgagag	aagtcactga	atatacatca	3480
agactttctt	cccagttcca	ctgcagatgc				3510

<210> 4
 <211> 4058
 <212> DNA
 <213> Homo sapiens

<400> 4						
ttcaaagaaa	cagcagcttt	tggacatttt	aatgagttct	atgccaaaac	cagaaagaca	60
tgctgagtca	ttgcttgaca	tttgtcatga	tacaaactct	tctccaactg	atttgatgac	120
agttaccaaa	aatcaaaaaca	tcactcttga	aagcatcagc	agaagtgagg	agttcgacca	180
agatggtgac	tgcagtcatt	ccacactggg	taatgaagaa	gaagatcca	gtggtggtag	240
acaggactgg	caaccagga	cagaaggtgt	tgagatcact	gtaacttttc	caagagatgt	300
cagtcctccc	caagaaatga	gccaagaaga	cttaaaagaa	aagaatctga	taaactcatc	360
gcttcaagaa	tgggcacaag	cacatgcagt	ttctcatcca	aatgaaatag	aaacgggtgga	420
gctcaggaaa	aagaagctga	ccatgcggcc	cttagttttg	caaaaagagg	aaagttccag	480
ggagctctgc	aatgtgaact	tgggcttttt	gctaccaaga	tcttgtttag	aactgaacat	540
ttccaagtct	gtaaccagag	aagatgctcc	tcattttctg	aaggagcagc	aaagaaaatc	600
tgaagagttt	tcgacctctc	atatgaagta	cagtggccga	agcatcaagt	tccttctgcc	660
accactgtca	ctcttgccca	cgcgatctgg	tgctccttact	atcccccaaa	atcacaagtt	720
tccaaaagaa	aaagaaagaa	acattccaag	tctcacatct	tttgtgccta	agctctcagt	780
gtctgttcgt	caatctgatg	agctcagccc	atcaaacgag	cctccgggag	ccctagttaa	840
gtcgttgatg	gatccgactc	tcaggtcttc	tgatggcttc	atttgggtcaa	gaaacatgtg	900
ctcttttctt	aagactaacc	atcacaggca	atgcctggag	aaggaggaaa	actggaaatc	960
caaggaaata	gaagaatgta	acaaaattga	aatcactcac	tttgaaaaag	ggcagtcctt	1020
ggtgtctttt	gagaatttga	aggaaggcaa	tattcctgca	gttaggggaag	aggatatgtg	1080
ctgccatggg	agtaaaacgc	gaaaacctga	agaagagaac	tctcaatatc	tttcatcaag	1140
aaagaatgag	agttcagtag	ccaaaaacta	tgaacaagat	ccagaaatag	tatgtacat	1200
tccaagcaag	ttccaagaaa	cccagcattc	agaaataact	ccaagccagg	atgaagagat	1260
gagaaataat	aaagctgctt	caaaaagagt	ttcattacat	aaaaatgaag	caatggaacc	1320

aaacaatatt	ttagaagagt	gtactgtact	taaaagctta	tccagtgtag	tctttgatga	1380
ccccattgat	aaactcccag	aaggttgtag	cagcatggag	acaaacataa	aaatatcaat	1440
agcagaaaga	gccaaaccag	aaatgagtag	gatgggtgcct	cttatccaca	tcaccttccc	1500
tgtggatgga	agccccaagg	aaccagtgat	agccaaacca	agcctccaaa	caagaaaagg	1560
aaccattcat	aacaaccata	gtgtcaacat	acctgtacac	caagaaaatg	acaagcataa	1620
gatgaattcc	cataggagta	agttggattc	aaagaccaag	acaagtaaga	agacacctca	1680
gaattttgtg	atttctactg	aaggtcccat	taagcctacc	atgcataaaa	ccagcataaa	1740
aacacaaaatt	ttcccggctt	tgggacttgt	ggaccccagg	ccttggcaat	tgcccagggt	1800
tcaaaaagaaa	atgccacaga	tagcaaagaa	gcaatcaact	caccgggactc	agaaaacctaa	1860
aaagcaatca	tttccttgca	tctgtaaaaa	tccaggaaca	cagaagtcac	gtgttcctct	1920
ctctgttcaa	ccgacagagc	caagactaaa	ttacctagat	cttaagtata	gtgatatgtt	1980
caaagaaatc	aattcaactg	ctaattggacc	tggaaatctat	gaaatgtttg	ggacccctgt	2040
ttattgtcat	gtgcgagaga	ctgaaaggga	tgaaaacacg	tattaccgtg	agatatgttc	2100
ggctccatca	ggcagacgta	tcaccaataa	atgtcgatct	tcacacagtg	agaggaagag	2160
caatatcaga	acaagacttt	ctcagaaaaa	aacacatatg	aaatgcccc	agacttcatt	2220
tggcattaaa	caagagcaca	aagtcttaat	ttctaaagaa	aagagttcca	aggctgtaca	2280
tagcaaccta	catgacattg	aaaatggtga	tggatatttca	gaaccagact	ggcagataaa	2340
gtcttcagga	aatgagtttc	tatcttccaa	agatgaaatt	catcccatga	acttggctca	2400
gacacctgag	cagtccatga	aacagaatga	attccctcct	gtctcagatt	tatccattgt	2460
tgaagaagtt	tctatggaag	agtctactgg	tgatagagac	atttctaaca	atcaaatact	2520
caccacaagc	ctcagagatc	tgcaagaact	tgaagagcta	catcaccaga	tcccatttat	2580
cccttcagaa	gacagctggg	cagtgccag	tgagaagaat	tctaacaagt	atgtacagca	2640
agaaaagcag	aatacagcat	ctcttagtaa	agtaaattgcc	agccgaattt	taactaatga	2700
tctagagttt	gatagtgttt	cagatcactc	taaaacactt	acaaatttct	ctttccaagc	2760
aaaacaagaa	agtgcattct	cccagacata	tcaatatttg	gtacattatt	tggatcatga	2820
tagtttagca	aataagtcaa	tcacatatca	aatgtttgga	aaaaccttaa	gtggcacaaa	2880
ttcaattttcc	caagaaatta	tggactctgt	aaataatgaa	gaattgacag	atgaactatt	2940
aggttgtcta	gctgcagaat	tattagctct	tgatgagaaa	gataacaact	cttgccaaaa	3000
aatggcaaat	gaaacagatc	ctgaaaacct	aaatcttgtc	ctcagatgga	gaggaagtac	3060
cccaaaaaga	atgggcagag	agacaacaaa	agtcaaaaat	cagaggcata	gtagtgggct	3120
caggatatat	gacagggagg	agaaatttct	catctcaaat	gaaaagaaga	tattttctga	3180
aaatagttta	aagtctgaag	aacctatcct	atggaccaag	ggtgagattc	ttggaaagg	3240
agcctacggc	acagtatact	gtggtctcac	tagtcaagga	cagctaatag	ctgtaaaaca	3300
ggtggctttg	gatacctcta	ataaatttagc	tgttgaaaag	gaataccgga	aactacagga	3360
agaagtagat	ttgctcaaag	cactgaaaca	tgtcaacatt	gtggcctatt	tggggacatg	3420
cttgcaagag	aacactgtga	gcattttcat	ggagtttgtt	cctgggtggct	caatctctag	3480
tattataaac	cgtttttgggc	cattgcctga	gatggtgttc	tgtaaatata	cgaacaaaat	3540
acttcaagggt	gttgtcttatc	tccatgagaa	ctgtgtggta	catcgcgata	tcaaaggaaa	3600
taatgttatg	ctcatgccaa	ctggaataat	aaagctgatt	gactttggct	gtgccaggcg	3660
tttggcctgg	gcaggttttaa	atggcaccca	cagtgcacatg	cttaagtcca	tgcattgggac	3720
tccatatttg	atggccccag	aagtcataca	tgagtctggc	tatggacgga	aatcagatat	3780
ctggagcatt	ggttgtactg	tgtttgagat	ggctacaggg	aagcctccac	tggcttccat	3840
ggacaggatg	gccgccatgt	tttacatcgg	agcacaccga	gggctgatgc	ctcctttacc	3900
agaccacttc	tcagaaaatg	cagcagactt	tgtgcgcacg	tgccctgacca	gggaccagca	3960
tgagcgcacct	tctgctctcc	agctcctgaa	gcactccttc	ttggagagaa	gtcactgaat	4020
atacatcaag	acttttcttc	cagttccact	gcagatgc			4058

<210> 5

<211> 1460

<212> DNA

<213> Homo sapiens

<400> 5

ttcaaagaaa	cagcagcttt	tggacatttt	aatgagttct	atgccaaaac	cagaaagaca	60
tgctgagtca	ttgcttgaca	tttgtcatga	tacaaactct	tctccaactg	atttgatgac	120
agttaccaaa	aatcaaaaaca	tcatcttgca	aagcatcagc	agaagtgagg	agttcgacca	180
agatgggtgac	tgcagtcatt	ccacactggt	taatgaagaa	gaagatccca	gtgggtggtag	240
acaggactgg	caaccaggga	cagaagggtt	tgagatcact	gtaacttttc	caagagatgt	300
cagtcctccc	caagaaatga	gccaagaaga	cttaaaagaa	aagaatctga	taaaactcatc	360
gcttcaagaa	tgggcacaa	cacatgcagt	ttctcatcca	aatgaaatag	aaacggtgga	420
gctcaggaaa	aagaagctga	ccatgcggcc	cttagttttg	caaaaagagg	aaagttccag	480

```

ggagctctgc aatgtgaact tgggcttttt gctaccaaga tcttgtttag aactgaacat 540
ttccaagtct gtaaccagag aagatgctcc tcattttctg aaggagcagc aaagaaaatc 600
tgaagagttt tcgacctctc atatgaagta cagtggccga agcatcaaga ggcatagtag 660
tgggctcagg atatatgaca gggaggagaa atttctcatc tcaaatagaaa agaagatatt 720
ttctgaaaat agtttaaagt ctgaagaacc taccctatgg accaaggtag atttgctcaa 780
agcactgaaa catgtcaaca ttgtggccta tttggggaca tgcttgcaag agaactagt 840
gagcattttc atggagtttg ttcttggtgg ctcaatctct agtattataa accgttttgg 900
gccattgcct gagatggtgt tctgtaaata tacgaaacaa atacttcaag gtgttgctta 960
tctccatgag aactgtgtgg tacatcgcca tatcaaagga aataatgtta tgctcatgcc 1020
aactggaata ataaagctga ttgacttttg ctgtgccagg cgtttggcct gggcaggttt 1080
aaatggcacc cacagtgaac tgcttaagtc catgcatggg actccatatt ggatggcccc 1140
agaagtcata aatgagtctg gctatggagc gaaatcagat atctggagca ttggtgtatc 1200
tgtgttttag atggctacag ggaagcctcc actggcttcc atggacagga tggccgccat 1260
gttttacatc ggagcacacc gagggctgat gcctccttta ccagaccact tctcagaaaa 1320
tgcagcagac tttgtgcgca tgtgcctgac cagggaccag catgagcgac cttctgctct 1380
ccagctcctg aagcactcct tcttgagag aagtcactga atatacatca agacttttctt 1440
cccagttcca ctgcagatgc                                     1460

```

<210> 6
<211> 1604
<212> DNA
<213> Homo sapiens

```

<400> 6
ttcaaagaaa cagcagcttt tggacatttt aatgagttct atgccaaaac cagaaagaca 60
tgctgagtca ttgcttgaca tttgtcatga taaaaactct tctccaactg atttgatgac 120
agttaccaaaa aatcaaaaaca tcactcttgc aagcatcagc agaagtgagg agttcgacca 180
agatggtgac tgcagtcatt ccacactggg taatgaagaa gaagatccca gtggtggtag 240
acaggactgg caacccagga cagaagggtg tgagatcact gtaacttttc caagagatgt 300
cagtcctccc caagaaatga gccaagaaga cttaaaagaa aagaatctga taaactcatc 360
gcttcaagaa tgggcacaa gacatgcagt ttctcatcca aatgaaatag aaacggtgga 420
gctcaggaaa aagaagctga ccatgcgggc cttagttttg caaaaagagg aaagtccag 480
ggagctctgc aatgtgaact tgggcttttt gctaccaaga tcttgtttag aactgaacat 540
ttccaagtct gtaaccagag aagatgctcc tcattttctg aaggagcagc aaagaaaatc 600
tgaagagttt tcgacctctc atatgaagta cagtggccga agcatcaaga ggcatagtag 660
tgggctcagg atatatgaca gggaggagaa atttctcatc tcaaatagaaa agaagatatt 720
ttctgaaaat agtttaaagt ctgaagaacc taccctatgg accaagggtg agattcttgg 780
aaagggagcc tacggcacag tatactgttg tctcactagt caaggacagc taatagctgt 840
aaaacaggtg gctttggata cctctaataa attagctgct gaaaaggaat accggaaact 900
acaggaagaa gtagatttgc tcaaagcact gaaacatgtc aacattgttg cctatttggg 960
gacatgcttg caagagaaca ctgtgagcat tttcatggag tttgttcctg gtggctcaat 1020
ctctagtatt ataaaccgtt ttgggccatt gcctgagatg gtgttctgta aatatacgaa 1080
acaaatactt caaggtgttg cttatctcca tgagaactgt gtggtacatc gcgatatcaa 1140
aggaaataat gttatgctca tgccaactgg aataataaag ctgattgact ttggctgtgc 1200
caggcgtttg gcctgggcag gtttaaatgg caccacacag gacatgctta agtccatgca 1260
tgggactcca tattggatgg ccccgagaag catcaatgag tctggctatg gacggaaatc 1320
agatatctgg agcattggtt gtactgtgtt tgagatggct acagggaagc ctccactggc 1380
ttccatggac aggatggccg ccatgtttta catcggagca caccgagggc tgatgcctcc 1440
tttaccagac cacttctcag aaaatgcagc agactttgtg cgcattgtgc tgaccagga 1500
ccagcatgag cgaccttctg ctctccagct cctgaagcac tccttcttgg agagaagtca 1560
ctgaatatatac atcaagactt tcttccagct tccactgcag atgc                                     1604

```

<210> 7
<211> 1225
<212> PRT
<213> Homo sapiens

```

<400> 7
Ser Lys Lys Gln Gln Leu Leu Asp Ile Leu Met Ser Ser Met Pro Lys
1           5           10          15
Pro Glu Arg His Ala Glu Ser Leu Leu Asp Ile Cys His Asp Thr Asn

```


Cys	Ile	Cys	Lys	Asn	Pro	Gly	Thr	Gln	Lys	Ser	Cys	Val	Pro	Leu	Ser
		515					520					525			
Val	Gln	Pro	Thr	Glu	Pro	Arg	Leu	Asn	Tyr	Leu	Asp	Leu	Lys	Tyr	Ser
	530					535					540				
Asp	Met	Phe	Lys	Glu	Ile	Asn	Ser	Thr	Ala	Asn	Gly	Pro	Gly	Ile	Tyr
545					550					555					560
Glu	Met	Phe	Gly	Thr	Pro	Val	Tyr	Cys	His	Val	Arg	Glu	Thr	Glu	Arg
			565						570					575	
Asp	Glu	Asn	Thr	Tyr	Tyr	Arg	Glu	Ile	Cys	Ser	Ala	Pro	Ser	Gly	Arg
		580					585						590		
Arg	Ile	Thr	Asn	Lys	Cys	Arg	Ser	Ser	His	Ser	Glu	Arg	Lys	Ser	Asn
	595						600					605			
Ile	Arg	Thr	Arg	Leu	Ser	Gln	Lys	Lys	Thr	His	Met	Lys	Cys	Pro	Lys
610						615					620				
Thr	Ser	Phe	Gly	Ile	Lys	Gln	Glu	His	Lys	Val	Leu	Ile	Ser	Lys	Glu
625					630					635					640
Lys	Ser	Ser	Lys	Ala	Val	His	Ser	Asn	Leu	His	Asp	Ile	Glu	Asn	Gly
			645						650					655	
Asp	Gly	Ile	Ser	Glu	Pro	Asp	Trp	Gln	Ile	Lys	Ser	Ser	Gly	Asn	Glu
		660					665						670		
Phe	Leu	Ser	Ser	Lys	Asp	Glu	Ile	His	Pro	Met	Asn	Leu	Ala	Gln	Thr
	675						680					685			
Pro	Glu	Gln	Ser	Met	Lys	Gln	Asn	Glu	Phe	Pro	Pro	Val	Ser	Asp	Leu
	690					695				700					
Ser	Ile	Val	Glu	Glu	Val	Ser	Met	Glu	Glu	Ser	Thr	Gly	Asp	Arg	Asp
705					710					715					720
Ile	Ser	Asn	Asn	Gln	Ile	Leu	Thr	Thr	Ser	Leu	Arg	Asp	Leu	Gln	Glu
			725						730					735	
Leu	Glu	Glu	Leu	His	His	Gln	Ile	Pro	Phe	Ile	Pro	Ser	Glu	Asp	Ser
		740						745					750		
Trp	Ala	Val	Pro	Ser	Glu	Lys	Asn	Ser	Asn	Lys	Tyr	Val	Gln	Gln	Glu
	755						760					765			
Lys	Gln	Asn	Thr	Ala	Ser	Leu	Ser	Lys	Val	Asn	Ala	Ser	Arg	Ile	Leu
	770					775					780				
Thr	Asn	Asp	Leu	Glu	Phe	Asp	Ser	Val	Ser	Asp	His	Ser	Lys	Thr	Leu
785					790					795					800
Thr	Asn	Phe	Ser	Phe	Gln	Ala	Lys	Gln	Glu	Ser	Ala	Ser	Ser	Gln	Thr
			805						810					815	
Tyr	Gln	Tyr	Trp	Val	His	Tyr	Leu	Asp	His	Asp	Ser	Leu	Ala	Asn	Lys
	820							825					830		
Ser	Ile	Thr	Tyr	Gln	Met	Phe	Gly	Lys	Thr	Leu	Ser	Gly	Thr	Asn	Ser
	835						840					845			
Ile	Ser	Gln	Glu	Ile	Met	Asp	Ser	Val	Asn	Asn	Glu	Glu	Leu	Thr	Asp
	850					855					860				
Glu	Leu	Leu	Gly	Cys	Leu	Ala	Ala	Glu	Leu	Leu	Ala	Leu	Asp	Glu	Lys
865					870					875					880
Asp	Asn	Asn	Ser	Cys	Gln	Lys	Met	Ala	Asn	Glu	Thr	Asp	Pro	Glu	Asn
			885						890					895	
Leu	Asn	Leu	Val	Leu	Arg	Trp	Arg	Gly	Ser	Thr	Pro	Lys	Glu	Met	Gly
		900						905					910		
Arg	Glu	Thr	Thr	Lys	Val	Lys	Ile	Gln	Arg	His	Ser	Ser	Gly	Leu	Arg
	915						920					925			
Ile	Tyr	Asp	Arg	Glu	Glu	Lys	Phe	Leu	Ile	Ser	Asn	Glu	Lys	Lys	Ile
	930					935					940				
Phe	Ser	Glu	Asn	Ser	Leu	Lys	Ser	Glu	Glu	Pro	Ile	Leu	Trp	Thr	Lys
945					950					955					960
Gly	Glu	Ile	Leu	Gly	Lys	Gly	Ala	Tyr	Gly	Thr	Val	Tyr	Cys	Gly	Leu
			965						970					975	
Thr	Ser	Gln	Gly	Gln	Leu	Ile	Ala	Val	Lys	Gln	Val	Ala	Leu	Asp	Thr
		980						985				990			
Ser	Asn	Lys	Leu	Ala	Ala	Glu	Lys	Glu	Tyr	Arg	Lys	Leu	Gln	Glu	Glu

995	1000	1005
Val Asp Leu Leu Lys Ala	Leu Lys His Val Asn Ile Val Ala Tyr Leu	
1010	1015	1020
Gly Thr Cys Leu Gln Glu Asn Thr	Val Ser Ile Phe Met Glu Phe Val	
1025	1030	1035
Pro Gly Gly Ser Ile Ser Ser Ile	Ile Asn Arg Phe Gly Pro Leu Pro	1040
	1045	1050
Glu Met Val Phe Cys Lys Tyr Thr	Lys Gln Ile Leu Gln Gly Val Ala	1055
	1060	1065
Tyr Leu His Glu Asn Cys Val Val	His Arg Asp Ile Lys Gly Asn Asn	1070
	1075	1080
Val Met Leu Met Pro Thr Gly Ile	Ile Lys Leu Ile Asp Phe Gly Cys	1085
1090	1095	1100
Ala Arg Arg Leu Ala Trp Ala Gly	Leu Asn Gly Thr His Ser Asp Met	
1105	1110	1115
Leu Lys Ser Met His Gly Thr Pro	Tyr Trp Met Ala Pro Glu Val Ile	1120
	1125	1130
Asn Glu Ser Gly Tyr Gly Arg Lys	Ser Asp Ile Trp Ser Ile Gly Cys	1135
	1140	1145
Thr Val Phe Glu Met Ala Thr Gly	Lys Pro Pro Leu Ala Ser Met Asp	1150
	1155	1160
Arg Met Ala Ala Met Phe Tyr Ile	Gly Ala His Arg Gly Leu Met Pro	1165
1170	1175	1180
Pro Leu Pro Asp His Phe Ser Glu	Asn Ala Ala Asp Phe Val Arg Met	
1185	1190	1195
Cys Leu Thr Arg Asp Gln His Glu	Arg Pro Ser Ala Leu Gln Leu Leu	1200
	1205	1210
Lys His Ser Phe Leu Glu Arg Ser	His	1215
	1220	1225

<210> 8

<211> 1080

<212> PRT

<213> Homo sapiens

<400> 8

Phe Asp Gln Asp Gly Asp Cys Ser His	Ser Thr Leu Val Asn Glu Glu
1	5 10 15
Glu Asp Pro Ser Gly Gly Arg Gln Asp	Trp Gln Pro Arg Thr Glu Gly
	20 25 30
Val Glu Ile Thr Val Thr Phe Pro Arg	Asp Val Ser Pro Pro Gln Glu
	35 40 45
Met Ser Gln Glu Asp Leu Lys Glu Lys	Asn Leu Ile Asn Ser Ser Leu
	50 55 60
Gln Glu Trp Ala Gln Ala His Ala Val	Ser His Pro Asn Glu Ile Glu
65	70 75 80
Thr Val Glu Leu Arg Lys Lys Lys Leu	Thr Met Arg Pro Leu Val Leu
	85 90 95
Gln Lys Glu Glu Ser Ser Arg Glu Leu	Cys Asn Val Asn Leu Gly Phe
	100 105 110
Leu Leu Pro Arg Ser Cys Leu Glu Leu	Asn Ile Ser Lys Ser Val Thr
	115 120 125
Arg Glu Asp Ala Pro His Phe Leu Lys	Glu Gln Gln Arg Lys Ser Glu
	130 135 140
Glu Phe Ser Thr Ser His Met Lys Tyr	Ser Gly Arg Ser Ile Lys Phe
145	150 155 160
Leu Leu Pro Pro Leu Ser Leu Leu Pro	Thr Arg Ser Gly Val Leu Thr
	165 170 175
Ile Pro Gln Asn His Lys Phe Pro Lys	Glu Lys Glu Arg Asn Ile Pro
	180 185 190

Ser	Leu	Thr	Ser	Phe	Val	Pro	Lys	Leu	Ser	Val	Ser	Val	Arg	Gln	Ser
	195						200					205			
Asp	Glu	Leu	Ser	Pro	Ser	Asn	Glu	Pro	Pro	Gly	Ala	Leu	Val	Lys	Ser
	210					215					220				
Leu	Met	Asp	Pro	Thr	Leu	Arg	Ser	Ser	Asp	Gly	Phe	Ile	Trp	Ser	Arg
	225				230					235					240
Asn	Met	Cys	Ser	Phe	Pro	Lys	Thr	Asn	His	His	Arg	Gln	Cys	Leu	Glu
				245					250					255	
Lys	Glu	Glu	Asn	Trp	Lys	Ser	Lys	Glu	Ile	Glu	Glu	Cys	Asn	Lys	Ile
			260					265					270		
Glu	Ile	Thr	His	Phe	Glu	Lys	Gly	Gln	Ser	Leu	Val	Ser	Phe	Glu	Asn
		275					280					285			
Leu	Lys	Glu	Gly	Asn	Ile	Pro	Ala	Val	Arg	Glu	Glu	Asp	Ile	Asp	Cys
	290					295					300				
His	Gly	Ser	Lys	Thr	Arg	Lys	Pro	Glu	Glu	Glu	Asn	Ser	Gln	Tyr	Leu
	305				310					315					320
Ser	Ser	Arg	Lys	Asn	Glu	Ser	Ser	Val	Ala	Lys	Asn	Tyr	Glu	Gln	Asp
				325					330					335	
Pro	Glu	Ile	Val	Cys	Thr	Ile	Pro	Ser	Lys	Phe	Gln	Glu	Thr	Gln	His
			340					345					350		
Ser	Glu	Ile	Thr	Pro	Ser	Gln	Asp	Glu	Glu	Met	Arg	Asn	Asn	Lys	Ala
		355					360					365			
Ala	Ser	Lys	Arg	Val	Ser	Leu	His	Lys	Asn	Glu	Ala	Met	Glu	Pro	Asn
	370					375					380				
Asn	Ile	Leu	Glu	Glu	Cys	Thr	Val	Leu	Lys	Ser	Leu	Ser	Ser	Val	Val
	385				390					395					400
Phe	Asp	Asp	Pro	Ile	Asp	Lys	Leu	Pro	Glu	Gly	Cys	Ser	Ser	Met	Glu
				405					410					415	
Thr	Asn	Ile	Lys	Ile	Ser	Ile	Ala	Glu	Arg	Ala	Lys	Pro	Glu	Met	Ser
			420					425					430		
Arg	Met	Val	Pro	Leu	Ile	His	Ile	Thr	Phe	Pro	Val	Asp	Gly	Ser	Pro
		435					440					445			
Lys	Glu	Pro	Val	Ile	Ala	Lys	Pro	Ser	Leu	Gln	Thr	Arg	Lys	Gly	Thr
	450					455					460				
Ile	His	Asn	Asn	His	Ser	Val	Asn	Ile	Pro	Val	His	Gln	Glu	Asn	Asp
	465				470					475					480
Lys	His	Lys	Met	Asn	Ser	His	Arg	Ser	Lys	Leu	Asp	Ser	Lys	Thr	Lys
				485					490					495	
Thr	Ser	Lys	Lys	Thr	Pro	Gln	Asn	Phe	Val	Ile	Ser	Thr	Glu	Gly	Pro
			500					505					510		
Ile	Lys	Pro	Thr	Met	His	Lys	Thr	Ser	Ile	Lys	Thr	Gln	Ile	Phe	Pro
		515					520					525			
Ala	Leu	Gly	Leu	Val	Asp	Pro	Arg	Pro	Trp	Gln	Leu	Pro	Arg	Phe	Gln
	530					535					540				
Lys	Lys	Met	Pro	Gln	Ile	Ala	Lys	Lys	Gln	Ser	Thr	His	Arg	Thr	Gln
	545				550					555					560
Lys	Pro	Lys	Lys	Gln	Ser	Phe	Pro	Cys	Ile	Cys	Lys	Asn	Pro	Gly	Thr
				565					570					575	
Gln	Lys	Ser	Cys	Val	Pro	Leu	Ser	Val	Gln	Pro	Thr	Glu	Pro	Arg	Leu
			580					585					590		
Asn	Tyr	Leu	Asp	Leu	Lys	Tyr	Ser	Asp	Met	Phe	Lys	Glu	Ile	Asn	Ser
	595						600					605			
Thr	Ala	Asn	Gly	Pro	Gly	Ile	Tyr	Glu	Met	Phe	Gly	Thr	Pro	Val	Tyr
	610					615					620				
Cys	His	Val	Arg	Glu	Thr	Glu	Arg	Asp	Glu	Asn	Thr	Tyr	Tyr	Arg	Glu
	625				630					635					640
Ile	Cys	Ser	Ala	Pro	Ser	Gly	Arg	Arg	Ile	Thr	Asn	Lys	Cys	Arg	Ser
				645					650					655	
Ser	His	Ser	Glu	Arg	Lys	Ser	Asn	Ile	Arg	Thr	Arg	Leu	Ser	Gln	Lys
			660					665					670		
Lys	Thr	His	Met	Lys	Cys	Pro	Lys	Thr	Ser	Phe	Gly	Ile	Lys	Gln	Glu

675	680	685
His Lys Val Leu Ile Ser	Lys Glu Lys Ser Ser	Lys Ala Val His Ser
690	695	700
Asn Leu His Asp Ile Glu	Asn Gly Asp Gly Ile Ser	Glu Pro Asp Trp
705	710	715
Gln Ile Lys Ser Ser Gly	Asn Glu Phe Leu Ser Ser	Lys Asp Glu Ile
725	730	735
His Pro Met Asn Leu Ala Gln	Thr Pro Glu Gln Ser Met	Lys Gln Asn
740	745	750
Glu Phe Pro Pro Val Ser Asp	Leu Ser Ile Val Glu Glu	Val Ser Met
755	760	765
Glu Glu Ser Thr Gly Asp Arg	Asp Ile Ser Asn Asn Gln	Ile Leu Thr
770	775	780
Thr Ser Leu Arg Asp Leu Gln	Glu Leu Glu Glu Leu His	His Gln Ile
785	790	795
Pro Phe Ile Pro Ser Glu Asp	Ser Trp Ala Val Pro Ser	Glu Lys Asn
805	810	815
Ser Asn Lys Tyr Val Gln Gln	Glu Lys Gln Asn Thr Ala	Ser Leu Ser
820	825	830
Lys Val Asn Ala Ser Arg Ile	Leu Thr Asn Asp Leu Glu	Phe Asp Ser
835	840	845
Val Ser Asp His Ser Lys Thr	Leu Thr Asn Phe Ser Phe	Gln Ala Lys
850	855	860
Gln Glu Ser Ala Ser Ser Gln	Thr Tyr Gln Tyr Trp Val	His Tyr Leu
865	870	875
Asp His Asp Ser Leu Ala Asn	Lys Ser Ile Thr Tyr Gln	Met Phe Gly
885	890	895
Lys Thr Leu Ser Gly Thr Asn	Ser Ile Ser Gln Glu Ile	Met Asp Ser
900	905	910
Val Asn Asn Glu Glu Leu Thr	Asp Glu Leu Leu Gly Cys	Leu Ala Ala
915	920	925
Glu Leu Leu Ala Leu Asp Glu	Lys Asp Asn Asn Ser Cys	Gln Lys Met
930	935	940
Ala Asn Glu Thr Asp Pro Glu	Asn Leu Asn Leu Val Leu	Arg Trp Arg
945	950	955
Gly Ser Thr Pro Lys Glu Met	Gly Arg Glu Thr Thr Lys	Val Lys Ile
965	970	975
Gln Arg His Ser Ser Gly Leu	Arg Ile Tyr Asp Arg Glu	Glu Lys Phe
980	985	990
Leu Ile Ser Asn Glu Lys Lys	Ile Phe Ser Glu Asn Ser	Leu Lys Ser
995	1000	1005
Glu Glu Pro Ile Leu Trp Thr	Lys Gly Glu Ile Leu Gly	Lys Gly Ala
1010	1015	1020
Tyr Gly Thr Val Tyr Cys Gly	Leu Thr Ser Gln Gly Gln	Leu Ile Ala
1025	1030	1035
Val Lys Gln Val Ala Leu Asp	Thr Ser Asn Lys Leu Ala	Ala Glu Lys
1045	1050	1055
Glu Tyr Arg Lys Leu Gln Glu	Glu Val Asp Leu Leu Lys	Ala Leu Lys
1060	1065	1070
His Val Pro Asp Gln Gly Pro	Ala	
1075	1080	

<210> 9

<211> 1137

<212> PRT

<213> Homo sapiens

<400> 9

Ser Lys Lys Gln Gln Leu Leu Asp Ile Leu Met Ser Ser Met Pro Lys
1 5 10 15

Pro	Glu	Arg	His	Ala	Glu	Ser	Leu	Leu	Asp	Ile	Cys	His	Asp	Thr	Asn
			20					25					30		
Ser	Ser	Pro	Thr	Asp	Leu	Met	Thr	Val	Thr	Lys	Asn	Gln	Asn	Ile	Ile
		35					40					45			
Leu	Gln	Ser	Ile	Ser	Arg	Ser	Glu	Glu	Phe	Asp	Gln	Asp	Gly	Asp	Cys
	50					55					60				
Ser	His	Ser	Thr	Leu	Val	Asn	Glu	Glu	Glu	Asp	Pro	Ser	Gly	Gly	Arg
65					70					75					80
Gln	Asp	Trp	Gln	Pro	Arg	Thr	Glu	Gly	Val	Glu	Ile	Thr	Val	Thr	Phe
			85						90					95	
Pro	Arg	Asp	Val	Ser	Pro	Pro	Gln	Glu	Met	Ser	Gln	Glu	Asp	Leu	Lys
			100					105					110		
Glu	Lys	Asn	Leu	Ile	Asn	Ser	Ser	Leu	Gln	Glu	Trp	Ala	Gln	Ala	His
		115					120					125			
Ala	Val	Ser	His	Pro	Asn	Glu	Ile	Glu	Thr	Val	Glu	Leu	Arg	Lys	Lys
	130					135					140				
Lys	Leu	Thr	Met	Arg	Pro	Leu	Val	Leu	Gln	Lys	Glu	Glu	Ser	Ser	Arg
145					150					155					160
Glu	Leu	Cys	Asn	Val	Asn	Leu	Gly	Phe	Leu	Leu	Pro	Arg	Ser	Cys	Leu
			165					170						175	
Glu	Leu	Asn	Ile	Ser	Lys	Ser	Val	Thr	Arg	Glu	Asp	Ala	Pro	His	Phe
			180					185					190		
Leu	Lys	Glu	Gln	Gln	Arg	Lys	Ser	Glu	Glu	Phe	Ser	Thr	Ser	His	Met
	195						200					205			
Lys	Tyr	Ser	Gly	Arg	Ser	Ile	Lys	Phe	Leu	Leu	Pro	Pro	Leu	Ser	Leu
	210					215					220				
Leu	Pro	Thr	Arg	Ser	Gly	Val	Leu	Thr	Ile	Pro	Gln	Asn	His	Lys	Phe
225					230					235					240
Pro	Lys	Glu	Lys	Glu	Arg	Asn	Ile	Pro	Ser	Leu	Thr	Ser	Phe	Val	Pro
				245					250					255	
Lys	Leu	Ser	Val	Ser	Val	Arg	Gln	Ser	Asp	Glu	Leu	Ser	Pro	Ser	Asn
			260					265					270		
Glu	Pro	Pro	Gly	Ala	Leu	Val	Lys	Ser	Leu	Met	Asp	Pro	Thr	Leu	Arg
		275					280					285			
Ser	Ser	Asp	Gly	Phe	Ile	Trp	Ser	Arg	Asn	Met	Cys	Ser	Phe	Pro	Lys
	290					295					300				
Thr	Asn	His	His	Arg	Gln	Cys	Leu	Glu	Lys	Glu	Glu	Asn	Trp	Lys	Ser
305					310					315					320
Lys	Glu	Ile	Glu	Glu	Cys	Asn	Lys	Ile	Glu	Ile	Thr	His	Phe	Glu	Lys
				325					330					335	
Gly	Gln	Ser	Leu	Val	Ser	Phe	Glu	Asn	Leu	Lys	Glu	Gly	Asn	Ile	Pro
			340					345					350		
Ala	Val	Arg	Glu	Glu	Asp	Ile	Asp	Cys	His	Gly	Ser	Lys	Thr	Arg	Lys
		355					360					365			
Pro	Glu	Glu	Glu	Asn	Ser	Gln	Tyr	Leu	Ser	Ser	Arg	Lys	Asn	Glu	Ser
	370					375					380				
Ser	Val	Ala	Lys	Asn	Tyr	Glu	Gln	Asp	Pro	Glu	Ile	Val	Cys	Thr	Ile
385					390					395					400
Pro	Ser	Lys	Phe	Gln	Glu	Thr	Gln	His	Ser	Glu	Ile	Thr	Pro	Ser	Gln
				405					410					415	
Asp	Glu	Glu	Met	Arg	Asn	Asn	Lys	Ala	Ala	Ser	Lys	Arg	Val	Ser	Leu
			420					425					430		
His	Lys	Asn	Glu	Ala	Met	Glu	Pro	Asn	Asn	Ile	Leu	Glu	Glu	Cys	Thr
		435					440					445			
Val	Leu	Lys	Ser	Leu	Ser	Ser	Val	Val	Phe	Asp	Asp	Pro	Ile	Asp	Lys
	450					455					460				
Leu	Pro	Glu	Gly	Cys	Ser	Ser	Met	Glu	Thr	Asn	Ile	Lys	Ile	Ser	Ile
465					470					475					480
Ala	Glu	Arg	Ala	Lys	Pro	Glu	Met	Ser	Arg	Met	Val	Pro	Leu	Ile	His
				485					490					495	
Ile	Thr	Phe	Pro	Val	Asp	Gly	Ser	Pro	Lys	Glu	Pro	Val	Ile	Ala	Lys

			500					505					510				
Pro	Ser	Leu	Gln	Thr	Arg	Lys	Gly	Thr	Ile	His	Asn	Asn	His	Ser	Val		
			515				520				525						
Asn	Ile	Pro	Val	His	Gln	Glu	Asn	Asp	Lys	His	Lys	Met	Asn	Ser	His		
			530				535				540						
Arg	Ser	Lys	Leu	Asp	Ser	Lys	Thr	Lys	Thr	Ser	Lys	Lys	Thr	Pro	Gln		
545				550				555				560					
Asn	Phe	Val	Ile	Ser	Thr	Glu	Gly	Pro	Ile	Lys	Pro	Thr	Met	His	Lys		
			565				570				575						
Thr	Ser	Ile	Lys	Thr	Gln	Ile	Phe	Pro	Ala	Leu	Gly	Leu	Val	Asp	Pro		
			580				585				590						
Arg	Pro	Trp	Gln	Leu	Pro	Arg	Phe	Gln	Lys	Lys	Met	Pro	Gln	Ile	Ala		
			595				600				605						
Lys	Lys	Gln	Ser	Thr	His	Arg	Thr	Gln	Lys	Pro	Lys	Lys	Gln	Ser	Phe		
			610				615				620						
Pro	Cys	Ile	Cys	Lys	Asn	Pro	Gly	Thr	Gln	Lys	Ser	Cys	Val	Pro	Leu		
625				630				635				640					
Ser	Val	Gln	Pro	Thr	Glu	Pro	Arg	Leu	Asn	Tyr	Leu	Asp	Leu	Lys	Tyr		
			645				650				655						
Ser	Asp	Met	Phe	Lys	Glu	Ile	Asn	Ser	Thr	Ala	Asn	Gly	Pro	Gly	Ile		
			660				665				670						
Tyr	Glu	Met	Phe	Gly	Thr	Pro	Val	Tyr	Cys	His	Val	Arg	Glu	Thr	Glu		
			675				680				685						
Arg	Asp	Glu	Asn	Thr	Tyr	Tyr	Arg	Glu	Ile	Cys	Ser	Ala	Pro	Ser	Gly		
			690				695				700						
Arg	Arg	Ile	Thr	Asn	Lys	Cys	Arg	Ser	Ser	His	Ser	Glu	Arg	Lys	Ser		
705				710				715				720					
Asn	Ile	Arg	Thr	Arg	Leu	Ser	Gln	Lys	Lys	Thr	His	Met	Lys	Cys	Pro		
			725				730				735						
Lys	Thr	Ser	Phe	Gly	Ile	Lys	Gln	Glu	His	Lys	Val	Leu	Ile	Ser	Lys		
			740				745				750						
Glu	Lys	Ser	Ser	Lys	Ala	Val	His	Ser	Asn	Leu	His	Asp	Ile	Glu	Asn		
			755				760				765						
Gly	Asp	Gly	Ile	Ser	Glu	Pro	Asp	Trp	Gln	Ile	Lys	Ser	Ser	Gly	Asn		
			770				775				780						
Glu	Phe	Leu	Ser	Ser	Lys	Asp	Glu	Ile	His	Pro	Met	Asn	Leu	Ala	Gln		
785				790				795				800					
Thr	Pro	Glu	Gln	Ser	Met	Lys	Gln	Asn	Glu	Phe	Pro	Pro	Val	Ser	Asp		
			805				810				815						
Leu	Ser	Ile	Val	Glu	Glu	Val	Ser	Met	Glu	Glu	Ser	Thr	Gly	Asp	Arg		
			820				825				830						
Asp	Ile	Ser	Asn	Asn	Gln	Ile	Leu	Thr	Thr	Ser	Leu	Arg	Asp	Leu	Gln		
			835				840				845						
Glu	Leu	Glu	Glu	Leu	His	His	Gln	Ile	Pro	Phe	Ile	Pro	Ser	Glu	Asp		
			850				855				860						
Ser	Trp	Ala	Val	Pro	Ser	Glu	Lys	Asn	Ser	Asn	Lys	Tyr	Val	Gln	Gln		
865				870				875				880					
Glu	Lys	Gln	Asn	Thr	Ala	Ser	Leu	Ser	Lys	Val	Asn	Ala	Ser	Arg	Ile		
			885				890				895						
Leu	Thr	Asn	Asp	Leu	Glu	Phe	Asp	Ser	Val	Ser	Asp	His	Ser	Lys	Thr		
			900				905				910						
Leu	Thr	Asn	Phe	Ser</													

Lys Asp Asn Asn Ser Cys Gln Lys Met Ala Asn Glu Thr Asp Pro Glu
 995 1000 1005
 Asn Leu Asn Leu Val Leu Arg Trp Arg Gly Ser Thr Pro Lys Glu Met
 1010 1015 1020
 Gly Arg Glu Thr Thr Lys Val Lys Ile Gln Arg His Ser Ser Gly Leu
 1025 1030 1035 1040
 Arg Ile Tyr Asp Arg Glu Glu Lys Phe Leu Ile Ser Asn Glu Lys Lys
 1045 1050 1055
 Ile Phe Ser Glu Asn Ser Leu Lys Ser Glu Glu Pro Ile Leu Trp Thr
 1060 1065 1070
 Lys Gly Glu Ile Leu Gly Lys Gly Ala Tyr Gly Thr Val Tyr Cys Gly
 1075 1080 1085
 Leu Thr Ser Gln Gly Gln Leu Ile Ala Val Lys Gln Val Ala Leu Asp
 1090 1095 1100
 Thr Ser Asn Lys Leu Ala Ala Glu Lys Glu Tyr Arg Lys Leu Gln Glu
 1105 1110 1115 1120
 Glu Val Asp Leu Leu Lys Ala Leu Lys His Val Pro Asp Gln Gly Pro
 1125 1130 1135
 Ala

<210> 10
 <211> 1338
 <212> PRT
 <213> Homo sapiens

<400> 10
 Ser Lys Lys Gln Gln Leu Leu Asp Ile Leu Met Ser Ser Met Pro Lys
 1 5 10 15
 Pro Glu Arg His Ala Glu Ser Leu Leu Asp Ile Cys His Asp Thr Asn
 20 25 30
 Ser Ser Pro Thr Asp Leu Met Thr Val Thr Lys Asn Gln Asn Ile Ile
 35 40 45
 Leu Gln Ser Ile Ser Arg Ser Glu Glu Phe Asp Gln Asp Gly Asp Cys
 50 55 60
 Ser His Ser Thr Leu Val Asn Glu Glu Glu Asp Pro Ser Gly Gly Arg
 65 70 75 80
 Gln Asp Trp Gln Pro Arg Thr Glu Gly Val Glu Ile Thr Val Thr Phe
 85 90 95
 Pro Arg Asp Val Ser Pro Pro Gln Glu Met Ser Gln Glu Asp Leu Lys
 100 105 110
 Glu Lys Asn Leu Ile Asn Ser Ser Leu Gln Glu Trp Ala Gln Ala His
 115 120 125
 Ala Val Ser His Pro Asn Glu Ile Glu Thr Val Glu Leu Arg Lys Lys
 130 135 140
 Lys Leu Thr Met Arg Pro Leu Val Leu Gln Lys Glu Glu Ser Ser Arg
 145 150 155 160
 Glu Leu Cys Asn Val Asn Leu Gly Phe Leu Leu Pro Arg Ser Cys Leu
 165 170 175
 Glu Leu Asn Ile Ser Lys Ser Val Thr Arg Glu Asp Ala Pro His Phe
 180 185 190
 Leu Lys Glu Gln Gln Arg Lys Ser Glu Glu Phe Ser Thr Ser His Met
 195 200 205
 Lys Tyr Ser Gly Arg Ser Ile Lys Phe Leu Leu Pro Pro Leu Ser Leu
 210 215 220
 Leu Pro Thr Arg Ser Gly Val Leu Thr Ile Pro Gln Asn His Lys Phe
 225 230 235 240
 Pro Lys Glu Lys Glu Arg Asn Ile Pro Ser Leu Thr Ser Phe Val Pro
 245 250 255
 Lys Leu Ser Val Ser Val Arg Gln Ser Asp Glu Leu Ser Pro Ser Asn

Glu	Lys	Ser	Ser	Lys	Ala	Val	His	Ser	Asn	Leu	His	Asp	Ile	Glu	Asn	755	760	765
Gly	Asp	Gly	Ile	Ser	Glu	Pro	Asp	Trp	Gln	Ile	Lys	Ser	Ser	Gly	Asn	770	775	780
Glu	Phe	Leu	Ser	Ser	Lys	Asp	Glu	Ile	His	Pro	Met	Asn	Leu	Ala	Gln	785	790	795
Thr	Pro	Glu	Gln	Ser	Met	Lys	Gln	Asn	Glu	Phe	Pro	Pro	Val	Ser	Asp	805	810	815
Leu	Ser	Ile	Val	Glu	Glu	Val	Ser	Met	Glu	Glu	Ser	Thr	Gly	Asp	Arg	820	825	830
Asp	Ile	Ser	Asn	Asn	Gln	Ile	Leu	Thr	Thr	Ser	Leu	Arg	Asp	Leu	Gln	835	840	845
Glu	Leu	Glu	Glu	Leu	His	His	Gln	Ile	Pro	Phe	Ile	Pro	Ser	Glu	Asp	850	855	860
Ser	Trp	Ala	Val	Pro	Ser	Glu	Lys	Asn	Ser	Asn	Lys	Tyr	Val	Gln	Gln	865	870	875
Glu	Lys	Gln	Asn	Thr	Ala	Ser	Leu	Ser	Lys	Val	Asn	Ala	Ser	Arg	Ile	885	890	895
Leu	Thr	Asn	Asp	Leu	Glu	Phe	Asp	Ser	Val	Ser	Asp	His	Ser	Lys	Thr	900	905	910
Leu	Thr	Asn	Phe	Ser	Phe	Gln	Ala	Lys	Gln	Glu	Ser	Ala	Ser	Ser	Gln	915	920	925
Thr	Tyr	Gln	Tyr	Trp	Val	His	Tyr	Leu	Asp	His	Asp	Ser	Leu	Ala	Asn	930	935	940
Lys	Ser	Ile	Thr	Tyr	Gln	Met	Phe	Gly	Lys	Thr	Leu	Ser	Gly	Thr	Asn	945	950	955
Ser	Ile	Ser	Gln	Glu	Ile	Met	Asp	Ser	Val	Asn	Asn	Glu	Glu	Leu	Thr	965	970	975
Asp	Glu	Leu	Leu	Gly	Cys	Leu	Ala	Ala	Glu	Leu	Leu	Ala	Leu	Asp	Glu	980	985	990
Lys	Asp	Asn	Asn	Ser	Cys	Gln	Lys	Met	Ala	Asn	Glu	Thr	Asp	Pro	Glu	995	1000	1005
Asn	Leu	Asn	Leu	Val	Leu	Arg	Trp	Arg	Gly	Ser	Thr	Pro	Lys	Glu	Met	1010	1015	1020
Gly	Arg	Glu	Thr	Thr	Lys	Val	Lys	Ile	Gln	Arg	His	Ser	Ser	Gly	Leu	1025	1030	1035
Arg	Ile	Tyr	Asp	Arg	Glu	Glu	Lys	Phe	Leu	Ile	Ser	Asn	Glu	Lys	Lys	1045	1050	1055
Ile	Phe	Ser	Glu	Asn	Ser	Leu	Lys	Ser	Glu	Glu	Pro	Ile	Leu	Trp	Thr	1060	1065	1070
Lys	Gly	Glu	Ile	Leu	Gly	Lys	Gly	Ala	Tyr	Gly	Thr	Val	Tyr	Cys	Gly	1075	1080	1085
Leu	Thr	Ser	Gln	Gly	Gln	Leu	Ile	Ala	Val	Lys	Gln	Val	Ala	Leu	Asp	1090	1095	1100
Thr	Ser	Asn	Lys	Leu	Ala	Ala	Glu	Lys	Glu	Tyr	Arg	Lys	Leu	Gln	Glu	1105	1110	1115
Glu	Val	Asp	Leu	Leu	Lys	Ala	Leu	Lys	His	Val	Asn	Ile	Val	Ala	Tyr	1125	1130	1135
Leu	Gly	Thr	Cys	Leu	Gln	Glu	Asn	Thr	Val	Ser	Ile	Phe	Met	Glu	Phe	1140	1145	1150
Val	Pro	Gly	Gly	Ser	Ile	Ser	Ser	Ile	Ile	Asn	Arg	Phe	Gly	Pro	Leu	1155	1160	1165
Pro	Glu	Met	Val	Phe	Cys	Lys	Tyr	Thr	Lys	Gln	Ile	Leu	Gln	Gly	Val	1170	1175	1180
Ala	Tyr	Leu	His	Glu	Asn	Cys	Val	Val	His	Arg	Asp	Ile	Lys	Gly	Asn	1185	1190	1195
Asn	Val	Met	Leu	Met	Pro	Thr	Gly	Ile	Ile	Lys	Leu	Ile	Asp	Phe	Gly	1205	1210	1215
Cys	Ala	Arg	Arg	Leu	Ala	Trp	Ala	Gly	Leu	Asn	Gly	Thr	His	Ser	Asp	1220	1225	1230
Met	Leu	Lys	Ser	Met	His	Gly	Thr	Pro	Tyr	Trp	Met	Ala	Pro	Glu	Val			

1235	1240	1245
Ile Asn Glu Ser Gly Tyr	Gly Arg Lys Ser Asp	Ile Trp Ser Ile Gly
1250	1255	1260
Cys Thr Val Phe Glu Met	Ala Thr Gly Lys Pro	Pro Leu Ala Ser Met
1265	1270	1275
Asp Arg Met Ala Ala Met	Phe Tyr Ile Gly Ala	His Arg Gly Leu Met
1285	1290	1295
Pro Pro Leu Pro Asp His	Phe Ser Glu Asn Ala	Ala Asp Phe Val Arg
1300	1305	1310
Met Cys Leu Thr Arg Asp	Gln His Glu Arg Pro	Ser Ala Leu Gln Leu
1315	1320	1325
Leu Lys His Ser Phe Leu	Glu Arg Ser His	
1330	1335	

<210> 11
 <211> 472
 <212> PRT
 <213> Homo sapiens

<400> 11

Ser Lys Lys Gln Gln Leu Leu Asp Ile Leu Met Ser Ser Met Pro Lys	
1 5 10 15	
Pro Glu Arg His Ala Glu Ser Leu Leu Asp Ile Cys His Asp Thr Asn	
20 25 30	
Ser Ser Pro Thr Asp Leu Met Thr Val Thr Lys Asn Gln Asn Ile Ile	
35 40 45	
Leu Gln Ser Ile Ser Arg Ser Glu Glu Phe Asp Gln Asp Gly Asp Cys	
50 55 60	
Ser His Ser Thr Leu Val Asn Glu Glu Glu Asp Pro Ser Gly Gly Arg	
65 70 75 80	
Gln Asp Trp Gln Pro Arg Thr Glu Gly Val Glu Ile Thr Val Thr Phe	
85 90 95	
Pro Arg Asp Val Ser Pro Pro Gln Glu Met Ser Gln Glu Asp Leu Lys	
100 105 110	
Glu Lys Asn Leu Ile Asn Ser Ser Leu Gln Glu Trp Ala Gln Ala His	
115 120 125	
Ala Val Ser His Pro Asn Glu Ile Glu Thr Val Glu Leu Arg Lys Lys	
130 135 140	
Lys Leu Thr Met Arg Pro Leu Val Leu Gln Lys Glu Glu Ser Ser Arg	
145 150 155 160	
Glu Leu Cys Asn Val Asn Leu Gly Phe Leu Leu Pro Arg Ser Cys Leu	
165 170 175	
Glu Leu Asn Ile Ser Lys Ser Val Thr Arg Glu Asp Ala Pro His Phe	
180 185 190	
Leu Lys Glu Gln Gln Arg Lys Ser Glu Glu Phe Ser Thr Ser His Met	
195 200 205	
Lys Tyr Ser Gly Arg Ser Ile Lys Arg His Ser Ser Gly Leu Arg Ile	
210 215 220	
Tyr Asp Arg Glu Glu Lys Phe Leu Ile Ser Asn Glu Lys Lys Ile Phe	
225 230 235 240	
Ser Glu Asn Ser Leu Lys Ser Glu Glu Pro Ile Leu Trp Thr Lys Val	
245 250 255	
Asp Leu Leu Lys Ala Leu Lys His Val Asn Ile Val Ala Tyr Leu Gly	
260 265 270	
Thr Cys Leu Gln Glu Asn Thr Val Ser Ile Phe Met Glu Phe Val Pro	
275 280 285	
Gly Gly Ser Ile Ser Ser Ile Ile Asn Arg Phe Gly Pro Leu Pro Glu	
290 295 300	
Met Val Phe Cys Lys Tyr Thr Lys Gln Ile Leu Gln Gly Val Ala Tyr	
305 310 315 320	

```

Leu His Glu Asn Cys Val Val His Arg Asp Ile Lys Gly Asn Asn Val
      325      330      335
Met Leu Met Pro Thr Gly Ile Ile Lys Leu Ile Asp Phe Gly Cys Ala
      340      345      350
Arg Arg Leu Ala Trp Ala Gly Leu Asn Gly Thr His Ser Asp Met Leu
      355      360      365
Lys Ser Met His Gly Thr Pro Tyr Trp Met Ala Pro Glu Val Ile Asn
      370      375      380
Glu Ser Gly Tyr Gly Arg Lys Ser Asp Ile Trp Ser Ile Gly Cys Thr
      385      390      400
Val Phe Glu Met Ala Thr Gly Lys Pro Pro Leu Ala Ser Met Asp Arg
      405      410      415
Met Ala Ala Met Phe Tyr Ile Gly Ala His Arg Gly Leu Met Pro Pro
      420      425      430
Leu Pro Asp His Phe Ser Glu Asn Ala Ala Asp Phe Val Arg Met Cys
      435      440      445
Leu Thr Arg Asp Gln His Glu Arg Pro Ser Ala Leu Gln Leu Leu Lys
      450      455      460
His Ser Phe Leu Glu Arg Ser His
      465      470

```

```

<210> 12
<211> 520
<212> PRT
<213> Homo sapiens

```

```

<400> 12
Ser Lys Lys Gln Gln Leu Leu Asp Ile Leu Met Ser Ser Met Pro Lys
1      5      10      15
Pro Glu Arg His Ala Glu Ser Leu Leu Asp Ile Cys His Asp Thr Asn
      20      25      30
Ser Ser Pro Thr Asp Leu Met Thr Val Thr Lys Asn Gln Asn Ile Ile
      35      40      45
Leu Gln Ser Ile Ser Arg Ser Glu Glu Phe Asp Gln Asp Gly Asp Cys
      50      55      60
Ser His Ser Thr Leu Val Asn Glu Glu Glu Asp Pro Ser Gly Gly Arg
      65      70      75      80
Gln Asp Trp Gln Pro Arg Thr Glu Gly Val Glu Ile Thr Val Thr Phe
      85      90      95
Pro Arg Asp Val Ser Pro Pro Gln Glu Met Ser Gln Glu Asp Leu Lys
      100     105     110
Glu Lys Asn Leu Ile Asn Ser Ser Leu Gln Glu Trp Ala Gln Ala His
      115     120     125
Ala Val Ser His Pro Asn Glu Ile Glu Thr Val Glu Leu Arg Lys Lys
      130     135     140
Lys Leu Thr Met Arg Pro Leu Val Leu Gln Lys Glu Glu Ser Ser Arg
      145     150     155     160
Glu Leu Cys Asn Val Asn Leu Gly Phe Leu Leu Pro Arg Ser Cys Leu
      165     170     175
Glu Leu Asn Ile Ser Lys Ser Val Thr Arg Glu Asp Ala Pro His Phe
      180     185     190
Leu Lys Glu Gln Gln Arg Lys Ser Glu Glu Phe Ser Thr Ser His Met
      195     200     205
Lys Tyr Ser Gly Arg Ser Ile Lys Arg His Ser Ser Gly Leu Arg Ile
      210     215     220
Tyr Asp Arg Glu Glu Lys Phe Leu Ile Ser Asn Glu Lys Lys Ile Phe
      225     230     235     240
Ser Glu Asn Ser Leu Lys Ser Glu Glu Pro Ile Leu Trp Thr Lys Gly
      245     250     255
Glu Ile Leu Gly Lys Gly Ala Tyr Gly Thr Val Tyr Cys Gly Leu Thr

```

	260		265		270										
Ser	Gln	Gly	Gln	Leu	Ile	Ala	Val	Lys	Gln	Val	Ala	Leu	Asp	Thr	Ser
	275							280				285			
Asn	Lys	Leu	Ala	Ala	Glu	Lys	Glu	Tyr	Arg	Lys	Leu	Gln	Glu	Glu	Val
	290					295					300				
Asp	Leu	Leu	Lys	Ala	Leu	Lys	His	Val	Asn	Ile	Val	Ala	Tyr	Leu	Gly
305					310					315				320	
Thr	Cys	Leu	Gln	Glu	Asn	Thr	Val	Ser	Ile	Phe	Met	Glu	Phe	Val	Pro
			325					330					335		
Gly	Gly	Ser	Ile	Ser	Ser	Ile	Ile	Asn	Arg	Phe	Gly	Pro	Leu	Pro	Glu
		340						345				350			
Met	Val	Phe	Cys	Lys	Tyr	Thr	Lys	Gln	Ile	Leu	Gln	Gly	Val	Ala	Tyr
	355						360				365				
Leu	His	Glu	Asn	Cys	Val	Val	His	Arg	Asp	Ile	Lys	Gly	Asn	Asn	Val
	370					375					380				
Met	Leu	Met	Pro	Thr	Gly	Ile	Ile	Lys	Leu	Ile	Asp	Phe	Gly	Cys	Ala
385					390					395				400	
Arg	Arg	Leu	Ala	Trp	Ala	Gly	Leu	Asn	Gly	Thr	His	Ser	Asp	Met	Leu
			405					410					415		
Lys	Ser	Met	His	Gly	Thr	Pro	Tyr	Trp	Met	Ala	Pro	Glu	Val	Ile	Asn
	420							425				430			
Glu	Ser	Gly	Tyr	Gly	Arg	Lys	Ser	Asp	Ile	Trp	Ser	Ile	Gly	Cys	Thr
	435					440					445				
Val	Phe	Glu	Met	Ala	Thr	Gly	Lys	Pro	Pro	Leu	Ala	Ser	Met	Asp	Arg
	450					455					460				
Met	Ala	Ala	Met	Phe	Tyr	Ile	Gly	Ala	His	Arg	Gly	Leu	Met	Pro	Pro
465					470					475				480	
Leu	Pro	Asp	His	Phe	Ser	Glu	Asn	Ala	Ala	Asp	Phe	Val	Arg	Met	Cys
			485					490					495		
Leu	Thr	Arg	Asp	Gln	His	Glu	Arg	Pro	Ser	Ala	Leu	Gln	Leu	Leu	Lys
	500							505				510			
His	Ser	Phe	Leu	Glu	Arg	Ser	His								
	515					520									

<210> 13
 <211> 24
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(24)

<400> 13
 aatggcaccc acagtgacat gctt

24

<210> 14
 <211> 24
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(24)
 <223> Primer

<400> 14
 ccctcgggtgt gctccgatgt aaaa

24

<210> 15

<211> 28
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(28)
<223> Primer

<400> 15
ttcaaagaaa cagcagcttt tggacatt

28

<210> 16
<211> 25
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(25)

<400> 16
gcattctgcag tggaactggg aagaa

25